National Institute of Environmental Health Sciences

Analytical issues in monitoring drinking-water contamination related to short-term, heavy rainfall events

Author(s): Roig B, Delpla I, Baurès E, Jung AV, Thomas O
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Abstract:

Heavy rainfall events, increasing in frequency and intensity with climate change, impact on the quality of the water resource used for drinking-water production. Small-scale water suppliers are particularly sensitive because of their management and the related difficulties of adapting treatment to variations. Decision-support systems, based on monitoring and analytical tools, need to be developed to improve crisis-management procedures related to such events. After presenting the issues related to heavy rainfall events, the article summarizes the tools currently used for quality control of drinking water within this framework, the need for developments and other requirements. © 2011 Elsevier Ltd.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Extreme Weather Event, Food/Water Quality, Food/Water Security, Precipitation

Extreme Weather Event: Flooding

Food/Water Quality: Chemical, Pathogen, Other Water Quality Issue

Water Quality (other): Suspended particles; Water temperature; pH; Dissolved oxygen; Total organic carbon; Nitrates; Nitrites; Ammonia; Turbidity

Geographic Feature:

resource focuses on specific type of geography

Freshwater, Rural

Geographic Location:

resource focuses on specific location

Global or Unspecified

Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Foodborne/Waterborne Disease

Foodborne/Waterborne Disease: General Foodborne/Waterborne Disease

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content